03040204-05

(Little Pee Dee River)

General Description

The South Carolina portion of 03040204-05 (formerly 03040204-030, 060) is located in Marlboro, Dillon, and Marion Counties and consists primarily of the ***Little Pee Dee River*** and its tributaries from Bridges Creek to the Lumber River. The watershed occupies 132,753 acres of the Upper Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 45.8% agricultural land, 28.3% forested wetland, 15.7% forested land, 7.9% urban land, 1.7% scrub/shrub land, 0.3% nonforested wetland, and 0.3% water.

This section of the Little Pee Dee River accepts the drainage of its upper reach along with the Bridge Creek Watershed, Carolina Branch, the Shoe Heel Creek Watershed, and Martins Branch. Sweat Swamp (Wash Branch, Donohoe Bay, Beaverdam Creek) enters the river next, followed by Hayes Swamp (Persimmon Swamp), Ropers Mill Branch, Manning Bay, and Maple Swamp near the City of Dillon. Contrary Swamp originates in South Carolina and drains into North Carolina near Hayes Swamp. Cypress Branch drains into the Little Pee Dee River downstream of Maple Swamp together with Kelly Bay, Cane Branch (Boggy Branch), Bell Swamp Branch (Butler Branch, Long Branch, Indian Pot Branch, Poplar Branch, Little Pee Dee State Park Pond), Hayes Branch, Mile Branch, and Hards Branch. Little Pee Dee State Park is located on the river near the confluence with Cane Branch and extends over to Bell Branch Swamp. There are a total of 251.7 stream miles and 234.1 acres of lake waters in this watershed. Maple Swamp is classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5), and the remaining streams in the watershed are classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-069	P/W	FW	LITTLE PEE DEE RIVER AT SC 57 11.5 MI NW OF DILLON
PD-029E	S/W	FW	LITTLE PEE DEE RIVER AT S-17-23
PD-055	S/SPRP	FW	LITTLE PEE DEE RIVER AT SC 9
PD-030	S/W	FW*	MAPLE SWAMP AT SC 57
PD-030A	S/W	FW	LITTLE PEE DEE RIVER BELOW JUCNTION WITH MAPLE SWAMP
PD-348	W/INT	FW	LITTLE PEE DEE RIVER AT S-17-72
PD-052	P/INT	FW	LITTLE PEE DEE RIVER AT S-34-60

Little Pee Dee River – There are six SCDHEC monitoring sites along this section of the Little Pee Dee River. This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. At the furthest upstream site ***(PD-069)***, aquatic life and recreational uses are fully supported. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in five-day biological oxygen demand, total phosphorus concentration, and total nitrogen concentration suggest improving conditions for these parameters. At the next site downstream ***(PD-029E)***, aquatic life uses are fully supported. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in five-day biological oxygen demand and

total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions. Further downstream ***(PD-055)***, aquatic life and recreational uses are fully supported. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in five-day biological oxygen demand, turbidity, total phosphorus concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters.

At the next site downstream ***(PD-030A)***, aquatic life uses are not supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in five-day biological oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions. Further downstream ***(PD-348/RS-01018)***, aquatic life uses are not supported due to pH excursions. There is also a significant decreasing trend in dissolved oxygen concentration and there is a significant decreasing trend in pH. A significant decreasing trend in five-day biological oxygen demand suggests improving conditions for this parameter. Recreational uses are fully supported at this site.

At the furthest downstream site ***(PD-052)***, aquatic life uses are partially supported due to occurrences of copper in excess of the aquatic life acute criterion. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in five-day biological oxygen demand, turbidity, total phosphorus and nitrogen concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters. A very high concentration of cadmium was measured in the 2000 sediment sample. Recreational uses are fully supported at this site.

Maple Swamp (PD-030) – This is a blackwater system, characterized by naturally low dissolved oxygen conditions. Although dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Aquatic life uses are fully supported, but recreational uses are partially supported due to fecal coliform bacteria excursions. Significant increasing trends in dissolved oxygen concentration and decreasing trends in five-day biological oxygen demand and total phosphorus concentration suggest improving conditions for these parameters.

A fish consumption advisory has been issued by the Department for mercury and includes the ***Little Pee Dee River*** *within this watershed (see advisory p.130).*

NPDES Program

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME* *PERMITTED FLOW @ PIPE (MGD)*	*NPDES#* *TYPE* *COMMENT*
LITTLE PEE DEE RIVER CITY OF DILLON PIPE #: 001-004 FLOW: 4.0	SC0021776 MAJOR DOMESTIC
LITTLE PEE DEE RIVER TRICO/HAMER WTP PIPE #: 001 FLOW: 0.0468	SCG645031 MINOR DOMESTIC
HAYES SWAMP SOUTH OF THE BORDER PIPE #: 001 FLOW: 0.18	SC0031801 MINOR DOMESTIC
ROPERS MILL BRANCH TRICO/BOBBY BYRD WTP PIPE #: 001 FLOW: 0.0764	SCG645022 MINOR DOMESTIC
LONG BRANCH TRICO/BERMUDA WTP PIPE #: 001 FLOW: 0.0346	SCG645021 MINOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME *FACILITY TYPE*	*PERMIT #* *STATUS*
DILLON COUNTY C&D LANDFILL CONSTRUCTION	171001-1202 ACTIVE
DILLON COUNTY SHORT TERM C&D LANDFILL CONSTRUCTION	171901-1301 INACTIVE
DILLON COUNTY C&D LANDFILL INDUSTRIAL	171901-1201 INACTIVE
DILLON COUNTY INDUSTRIAL LANDFILL INDUSTRIAL	171001-1601 ACTIVE
DILLON COUNTY SW TRANSFER STATION MUNICIPAL	171001-6001 ACTIVE
DILLON COUNTY SW LANDFILL MUNICIPAL	---------- INACTIVE
DILLON COUNTY SANITARY LANDFILL MUNICIPAL	---------- INACTIVE
NOBLES CORP. WOOD CHIPPING SITE COMPOSTING	172483-3002 ACTIVE
NOBLES CORP. YARD WASTE COMPOSTING COMPOSTING	172483-3001 INACTIVE

NOBLES CORP. C&D SW RECYCLING COMPOSTING	172483-2001 ACTIVE
301 FARM SHORT-TERM LANDFILL C&D	172900-1301 INACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
DILLON COUNTY DOVE MILL ROAD BORROW PIT	1501-33 SAND
WILLARD BARKER, JR. MILLER	0955-33 SAND/CLAY

Growth Potential

There is a moderate potential for growth in this watershed, which contains the City of Dillon. The main growth area for the watershed is the City of Dillon, with development concentrated in the downtown area, the area south of Dillon, and at two interstate interchanges (I-95/SC Hwy 34 and I-95/SC Hwy 9). Industrial development is extensive, mostly in the urban fringe area north of Dillon. Due to water and sewer improvements, additional growth in this industrial corridor is likely. Water service includes a moderately extensive rural system associated with the Trico Water Company and the City of Dillon. Public sewer service is more limited, serving only Dillon and the urban fringe surrounding it. The City of Dillon has undergone a wastewater treatment plant upgrade, and an expansion of sewer service to provide for future growth.

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by the EPA for the upper ***Little Pee Dee River*** (monitoring site ***PD-029E***) to determine the maximum amount of fecal coliform bacteria it can receive from nonpoint sources and still meet water quality standards. The nonpoint sources that have been determined to be contributors to the upper Little Pee Dee River impairment include wildlife; grazing livestock and livestock defecating directly into streams; land application of poultry litter; and failed, malfunctioning, and/or operational septic systems. To achieve compliance with water quality standards, the TMDL recommends that fecal coliform bacteria loads be reduced from livestock sources, runoff from poultry litter application, runoff from sewer overflows, and failing septic systems by 64, 41, 100 and 100 percent at monitoring station PD-029E. The implementation of these load reduction allocation scenarios would result in an overall reduction of fecal coliform bacteria loading of 49.2 % at PD-029E, which is the amount of reduction necessary for the stream to achieve compliance at the impaired water quality monitoring station.

A TMDL was developed by SCDHEC and approved by EPA for the ***Little Pee Dee River*** water quality monitoring site ***PD-030A*** to determine the maximum amount of fecal coliform bacteria it can receive and still meet water quality standards. Fecal coliform sources are expected

to be from a combination of failing OSWD systems, and non-human sources such as livestock, wildlife, and pets. The TMDL states that a 53% reduction in fecal coliform loading is necessary for the stream to meet the water quality standard.

A TMDL was developed by SCDHEC and approved by EPA for ***Maple Swamp*** water quality monitoring site ***PD-030*** to determine the maximum amount of fecal coliform bacteria it can receive and still meet water quality standards. Fecal coliform sources may include some unreported leaking sewer lines, failing septic systems, and runoff from the single swine AFO. Contributions from wildlife and pets are considered negligible. The TMDL states that a 62% reduction in fecal coliform loading is necessary for the stream to meet the water quality standard.

Special Projects

Interstate Fecal Coliform Bacteria TMDL Development and Implementation for the Upper Little Pee Dee River

The Pee Dee Resource Conservation and Development Council (RC&D) along with Soil and Water Conservation Districts in both North and South Carolina have worked to develop and implement a fecal bacteria TMDL for the upper Little Pee Dee River Basin. The TMDL itself covers the watershed above SCDHEC's water quality monitoring station (PD-029E) and stretched into North Carolina. The implementation effort took place only in the South Carolina portions of Dillon and Marlboro counties. Before ending in Fall 2007, the RC&D and its partners repaired or replaced a large number of septic systems. Many of these systems were located adjacent to swamps draining to the river. By targeting these critical areas for septic repairs and by implementing other agricultural best management practices like vegetative buffers and exclusion fencing, this project is on track for showing water quality improvements. Early data suggest such improvements, but further continued monitoring is necessary to determine complete success.